

# HEV Genome

Non-structural

Structural

ORF 1 (5079bp)

ORF 3 (369bp)

ORF 2 (1980bp)

8-5 (123aa)

B/M/U4.2 (33aa)

SG3 (327aa)

B/M3.2 (42aa)

B/M/U3.2e (48aa)

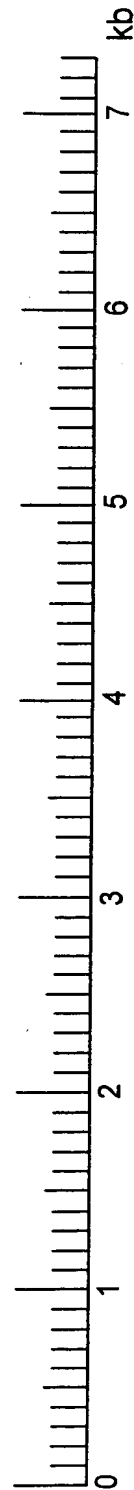


Figure 1

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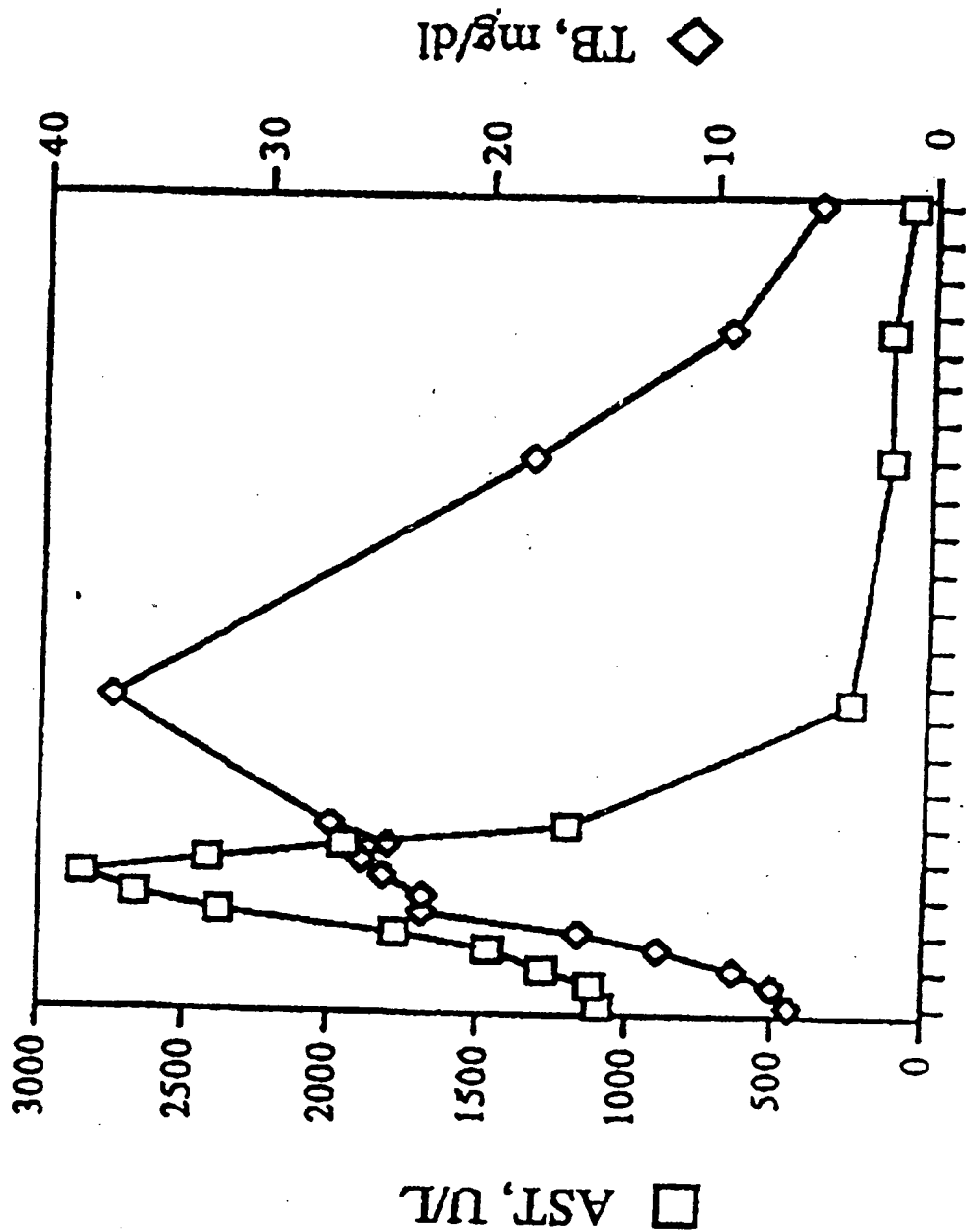


Figure 2

# HEV US-1 Genome Extension

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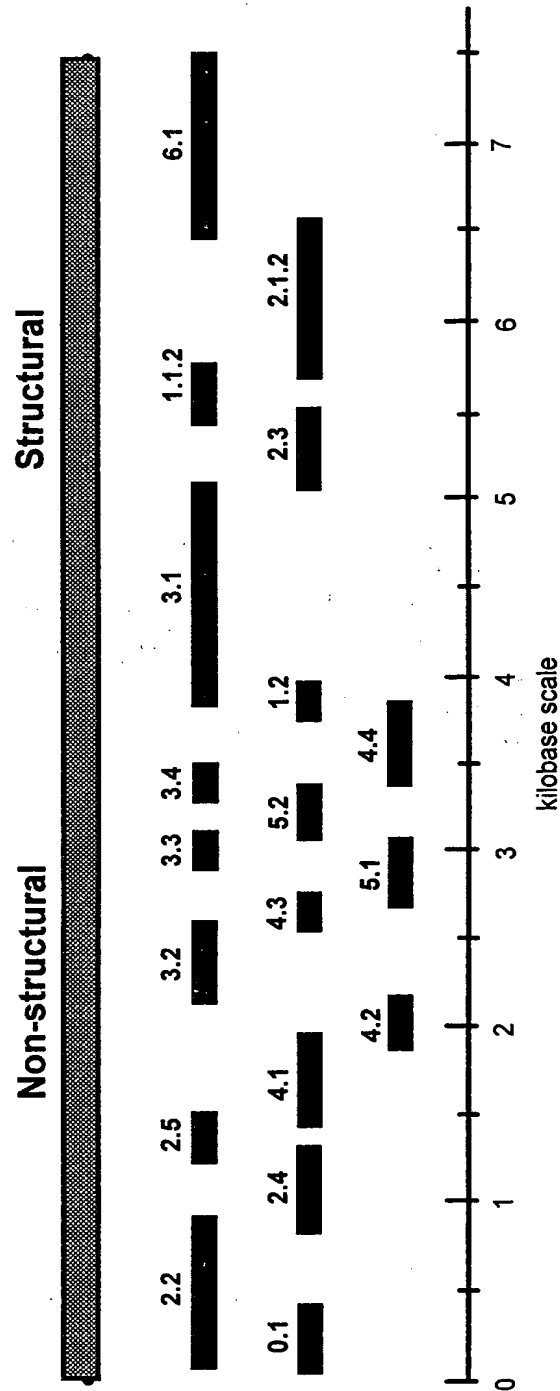


Figure 3

# Extension of HEV US-2

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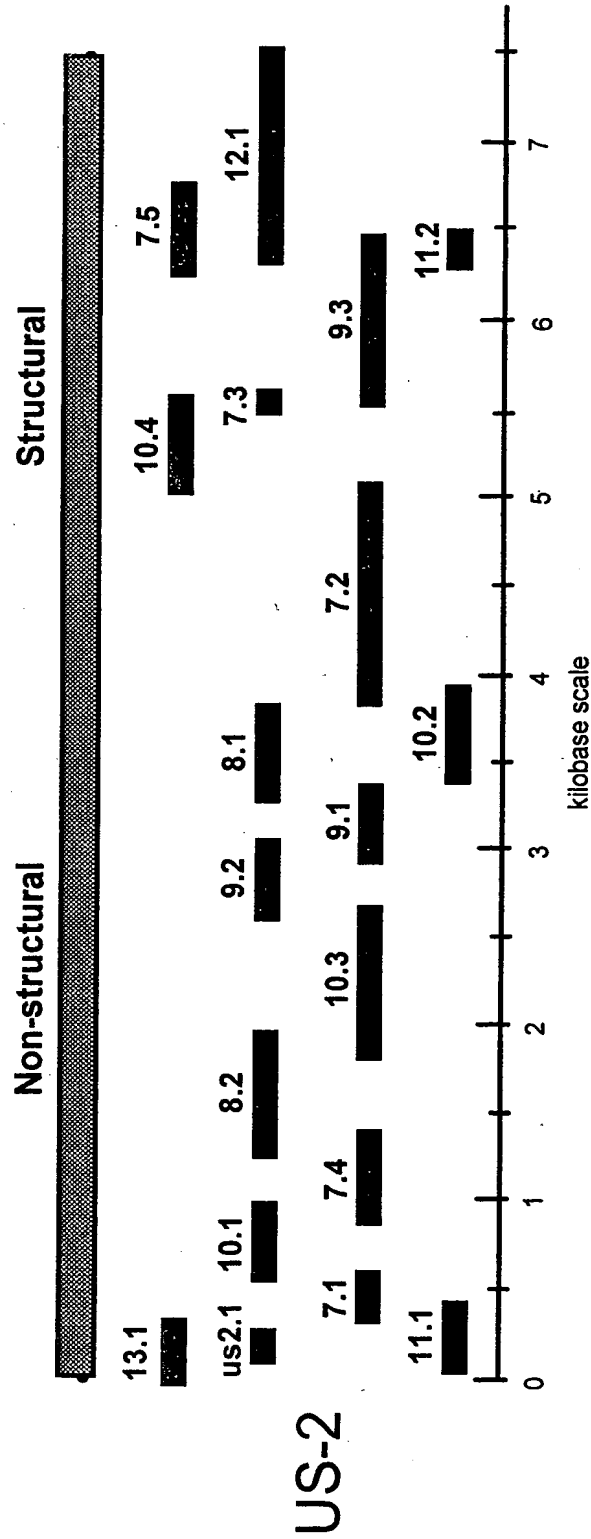


Figure 4

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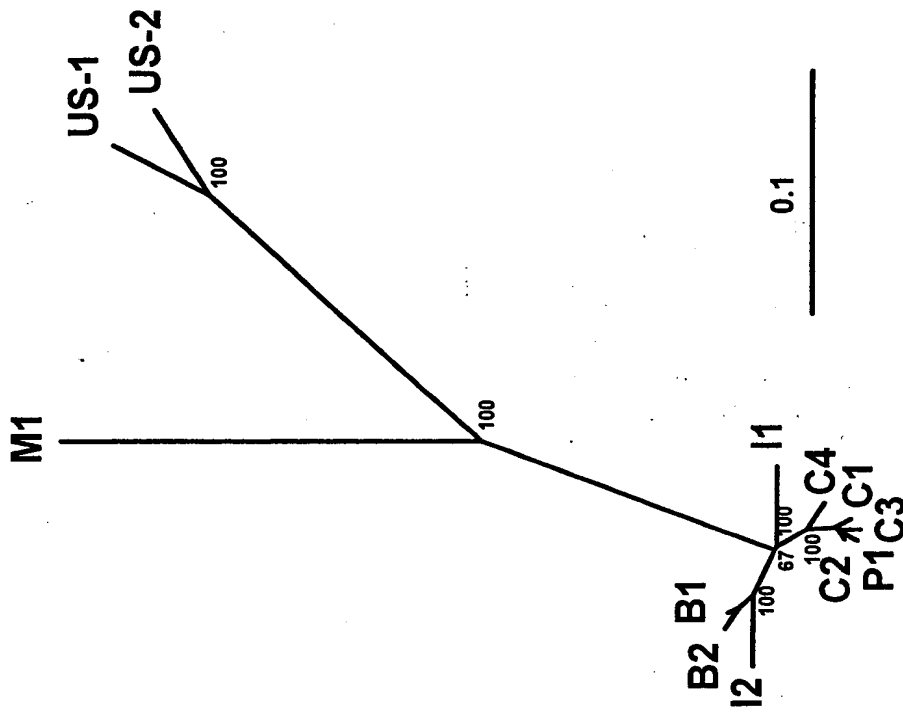


Figure 5

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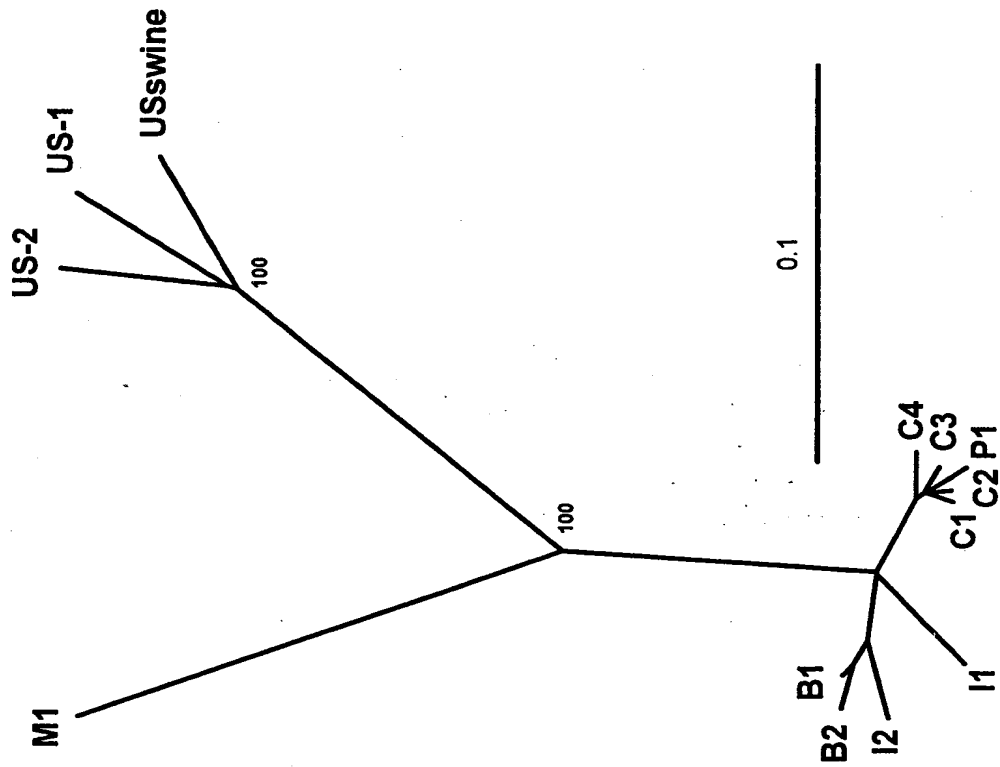


Figure 6

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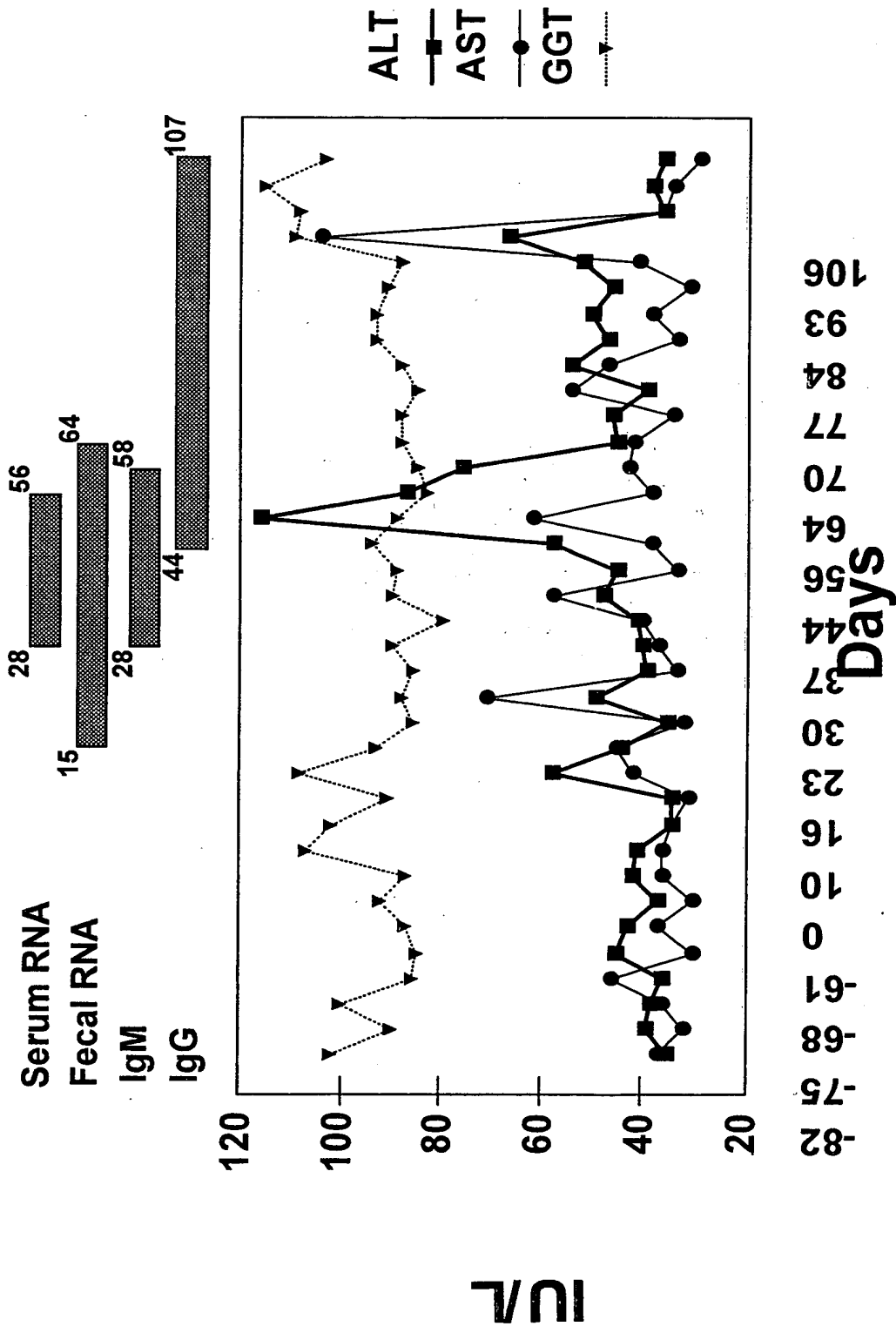


Figure 7

# Extension of Z12

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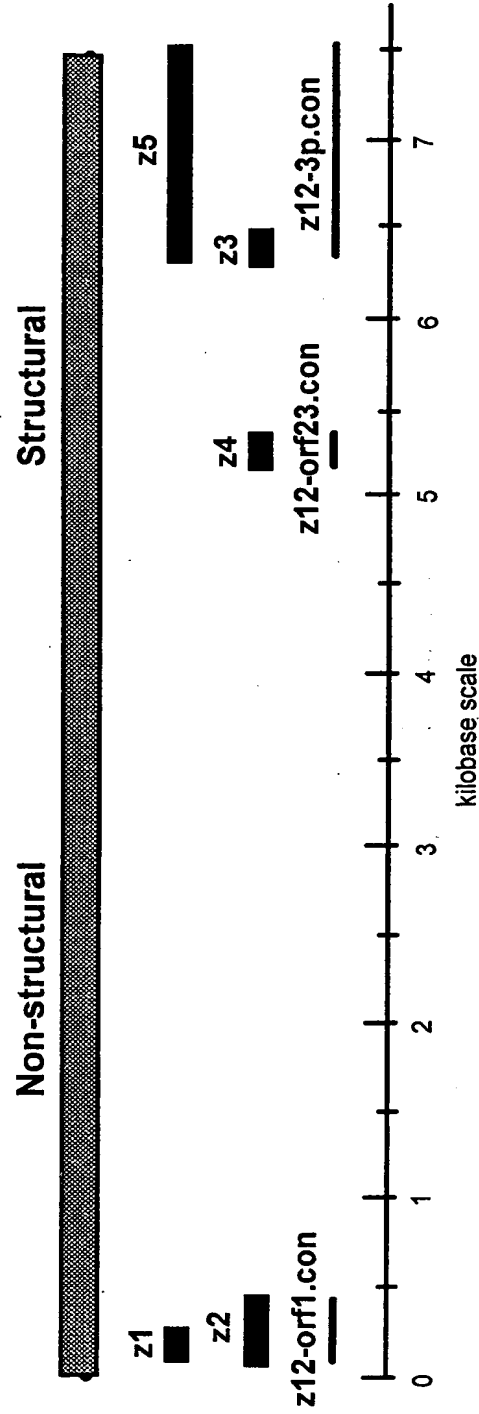


Figure 8



FIGURE 9A

5p.pile{hpesvp}	51	GGCTCCTGGC	ATCACTACTG	CTATTGAGCA	GGCTGCTCTA	GCAGCGGCCA	100
5p.pile{hpeuigh}		GGCTCCTGGC	ATCACTACTG	CTATTGAGCA	GGCTGCTCTA	GCAGCGGCCA	
5p.pile{hpea}		GGCTCCTGGC	ATCACTACTG	CTATTGAGCA	GGCTGCTCTA	GCAGCGGCCA	
5p.pile{840455p}		~~~CCTGGC	ATTACTACTG	CCATTGAGCA	GGCTGCTCTG	GCTGCGGCCA	
5p.pile{hpenssp}		GGCTCCTGGC	ATCACTACTG	CTATTGAGCA	AGCAGCTCTA	GCAGCGGCCA	
Consensus		----CCTGGC	AT-ACCTACTG	G-ATTGAGCA	-GC-GCTCT-	GC-GCGGCCA	
5p.pile{hpesvp}	101	ACTCTGCCCT	GGCGAATGCT	GTGGTAGTTA	GGCCTTTTCT	CTCTCACCAG	150
5p.pile{hpeuigh}		ATTCTGCCCT	TGCGAATGCT	GTGGTAGTTA	GGCCTTTTCT	CTCTCACCAG	
5p.pile{hpea}		ACTCTGCCCT	TGCGAATGCT	GTGGTAGTTA	GGCCTTTTCT	CTCTCACCAG	
5p.pile{840455p}		ATTCTGCCCT	GGCGAATGCT	GTGGTGGTTC	GGCCGTTTTT	ATCTCGCGTG	
5p.pile{hpenssp}		ACTCCGCCCT	TGCGAATGCT	GTGGTGGTCC	GGCCTTTTCT	TTCCCATCAG	
Consensus		A-TC-GCC-T	-GGCGAANGCT	CHGCT-GT--	GGCC-TT--T	-TC-C----G	
5p.pile{hpesvp}	151	CAGATTGAGA	TCCTCATTAA	CCTAATGCAA	CCTCGCCAGC	TTGTTTCCG	200
5p.pile{hpeuigh}		CAGATTGAGA	TCCTTATTAA	CCTAATGCAA	CCTCGCCAGC	TTGTTTCCG	
5p.pile{hpea}		CAGATTGAGA	TCCTTATTAA	CCTAATGCAA	CCTCGCCAGC	TTGTTTCCG	
5p.pile{840455p}		CAAAACCGAGA	TTCTTATTAA	TTTGATGCAA	CCCCGGCAGT	TGGTTTCCG	
5p.pile{hpenssp}		CAGGTTGAGA	TCCTTATAAA	TCATCATGCAA	CCTCGGCAGC	TGGTGTTCG	
Consensus		CA----GAGA	T-CT-AT-AA	--T-ATGCAA	CC-CG-CAG-	T-GT-TT-CG	

FIGURE 9B

5p.pile{hpesvp}	201	CCCCGAGGTT	TTCTGGAATC	ATCCCATCCA	GCGTGTTCATC	CATAACGAGC	250
5p.pile{hpeuigh}		CCCCGAGGTT	TTCTGGAACC	ACCCCATCCA	GCGTGTTCATC	CATAATGAGC	
5p.pile{hpea}		CCCCGAGGTT	TTCTGGAACC	ATCCCATCCA	GCGTGTTCATC	CATAATGAGC	
5p.pile{840455p}		CCCTGAGGTA	CTTTGGAATC	ACCCATATCCA	GCGGGTTATA	CATAATGAAT	
5p.pile{hpenssp}		TCCTGAGGTT	TTTGTGGAATC	ACCCGATTCA	ACGTGTTATA	CATAATGAGC	
Consensus		-CC-GAGGT-	-T-TGGAA-C	A-CC-AT-CA	-CG-GT-AT-	CATAA-GA--	
5p.pile{hpesvp}	251	TGGAGCTTTA	CTGCCGCGCC	CGTCCGGCC	GCTGTCTTGA	AATTGGCGCC	300
5p.pile{hpeuigh}		TGGAGCTTTA	CTGTCGCGCC	CGTCCGGCC	GCTGCCCTTGA	AATTGGTGCC	
5p.pile{hpea}		TGGAGCTTTA	CTGTCGCGCC	CGTCCGGCC	GCTGCCCTCGA	AATTGGTGCC	
5p.pile{840455p}		TAGAACAGTA	CTGCCGGGCT	CGGGCTGGTC	GTTGCTTGA	GTTGGAGCT	
5p.pile{hpenssp}		TTGAGCAGTA	TTGCCGTGCT	CGTCCGGTC	GCTGCCCTTGA	GATTGGAGCC	
Consensus		T-GA-C--TA	-TG-CG-GC-	CG--C-GG-C	G-TG--T-GA	--TTGG-GC-	
5p.pile{hpesvp}	301	CATCCCCCGCT	CAATAAATGA	TAATCCTAAT	GTGGTCCACC	GCTGCTTCCT	350
5p.pile{hpeuigh}		CACCCTCGCT	CAATAAACGA	CAATCCTAAT	GTGGTCCACC	GCTGCTTCCT	
5p.pile{hpea}		CACCCCCGCT	CAATAAATGA	CAATCCTAAT	GTGGTCCACC	GTTGCTTCCT	
5p.pile{840455p}		CACCCAAGAT	CCATTAAATGA	CAACCCCAAC	GTTCTGCATC	GGTGTTCCT	
5p.pile{hpenssp}		CACCCACGCT	CCATTAAATGA	TAATCCTAAT	GTCCCTCCATC	GCTGCTTCT	
Consensus		CA-CC--G-T	C-AT-AA-GA	-AA-CC-AA-	GT--T-CA-C	G-TG-TT-CT	

FIGURE 9C

351	5p.pile{hpesvp}	CCGCCCTGTT	GGCGTGATG	TTCAGCGCTG	GTATACTGCT	CCCACTCGCG	400
	5p.pile{hpeuigh}	CCGCCCTGCC	GGCGTGATG	TTCAGCGTTG	GTATACTGCT	CCTACCCGCG	
	5p.pile{hpea}	CCGTCCTGCC	GGCGTGATG	TTCAGCGTTG	GTATACTGCC	CCTACCCGCG	
	5p.pile{840455p}	TAGACCGGTT	GGCCGAGATG	TTCAGCGCTG	GTACTCTGCC	CCACCCGCG	
	5p.pile{hpenssp}	CCACCCCGTC	GGCCGGGATG	TTCAGCGCTG	GTACACAGCC	CCGACTAGGG	
	Consensus	-----CC-G--	GG-CG-GATG	TTCAGCGG-IG	GTA--C-GC-	CC-AC--G-G	
401	5p.pile{hpesvp}	GGCCGGCTGC	TAATTGCCCG	CGTTCCGCGC	TGCGCGGGCT	TCCCGCTGCT	450
	5p.pile{hpeuigh}	GGCCGGCTGC	TAATTGCCCG	GGTTCCGCAC	TGCGCGGGCT	CCCCGCTGCT	
	5p.pile{hpea}	GGCCGGCTGC	TAATTGCCCG	CGTTCCGCGC	TGCGCGGGCT	CCCCGCTGCT	
	5p.pile{840455p}	GCCCTGcGGC	TAATTGCCCG	cGcTccGCGT	TGCGTGGTCT	CCCCCCCCGCT	
	5p.pile{hpenssp}	GACCTGCGGC	GAACGTGTCG	CGCTCGGCAC	TTCGTGGTCT	GCCACCAGCC	
	Consensus	G-CC-GC-GC	-AA-TG-CG-	-G-TC-GC--	T-CG-GG-CT	-CC--C-GC-	
451	5p.pile{hpesvp}	GACCGCACTT	ACTGCCTCGA	CGGGTTTTCT	GGCTGTAAC	TTCCCGCCGA	500
	5p.pile{hpeuigh}	GACCGCACTT	ACTGCTTCGA	CGGGTTTTCT	GGCTGTAAC	TTCCCGCCGA	
	5p.pile{hpea}	GACCGCACTT	ACTGCTTCGA	CGGGTTTTCT	GGCTGTAAC	TTCCCGCCGA	
	5p.pile{840455p}	GACCGCACTT	ACTGCTTTGA	TGGATTCTCC	CGTTGTGCTT	TTGCTGCAGA	
	5p.pile{hpenssp}	GACCGCACTT	ACTGTTTTGA	TGGCTTTGCC	GGCTGCCGTT	TTGCCGCCGA	
	Consensus	GACCGCACTT	ACTG-T-GA	GG-TT--C-	-G-TG-----T	TT-C-GC-GA	

FIGURE 9D

1451	3p.pile{hpea}	ACTGAGTCAG	TGAAGCCAGT	GCTTGACCTG	ACAAATTCAA	TTCTGTGTCG	1500
	3p.pile{hpeuigh}	ACTGAGTCGG	TGAAGCCAGT	GCTCGACTTG	ACAAATTCAA	TCCTGTGTCG	
	3p.pile{hpesvp}	ACTGAGTCAG	TAAACCAGT	GCTCGACTTG	ACAAATTCAA	TCCTGTGTCG	
	3p.pile{hpenssp}	ACAGAGTCTG	TTAAGCCTAT	ACTTGACCTT	ACACACTCAA	TTATGCACCG	
	3p.pile{840453p}	ACAGAGACTA	TTAAACCTGT	ACTTGATCTC	ACAAATTCCA	TCATACAGCG	
	Consensus	AC-GAG-C--	T-AA-CC--T	-CT-GA--T-	ACA-A-TC-A	T--T--CG	
1501	3p.pile{hpea}	GGTGAATGA	ATAACATGTC	TTTTGCTGCG	CCCATGGGTT	CGCGACCATG	1550
	3p.pile{hpeuigh}	GGTGAATGA	ATAACATGTC	TTTTGCTGCG	CCCATGGGTT	GGCGACCATG	
	3p.pile{hpesvp}	GGTGAATGA	ATAACATGTC	TTTTGCTGCG	CCCATGGGTT	CGCGACCATG	
	3p.pile{hpenssp}	GTCTGAATGA	ATAACATGTG	GTTTGTCTGCG	CCCATGGGTT	CGCCACCATG	
	3p.pile{840453p}	GGTGAATGA	ATAACATGTC	TTTTGCTGCG	CCCATGGGTT	C...ACCATG	
	Consensus	GT--GAAATGA	ATAACATGTC	TTTTGCTGCG	CCCATGGGTT	----ACCATG	
1551	3p.pile{hpea}	CGCCCTCGGC	CTATTTTGCT	GTTGCTCCTC	ATGTTTCTGC	CTATGCTGCC	1600
	3p.pile{hpeuigh}	CGCCCTCGGC	CTATTTTGCT	GTTGCTCCTC	ATGTTTCTGC	CTATGCTGCC	
	3p.pile{hpesvp}	CGCCCTCGGC	CTATTTTGCT	GTTGCTCCTC	ATGTTTCTGC	CTATGCTGCC	
	3p.pile{hpenssp}	CGCCCTAGGC	CTCTTTTGCT	GTTGTTCCCTC	TTGTTTCTGC	CTATGTTGCC	
	3p.pile{840453p}	CGCCCTAGGC	CTGTTCTGTT	GTTGTTCCCTC	ATGTTTCTGC	CTATGCTGCC	
	Consensus	CGCCCT-GG-	CT-TT-TG-T	G-TG-TCCCTC	-TGTTT-TGC	CTAT--TGCC	

FIGURE 9E

3p.pile{hpea}	CGCGCCACCG	CCCGGTCAGC	CGTCTGGCCG	CCGTCGTGGG	CGGCGCAGCG	1650
3p.pile{hpeuigh}	CGCGCCACCG	CCCGGTCAGC	CGTCTGGCCG	CCGTCGTGGG	CGGCGCAGCG	
3p.pile{hpesvp}	CGCGCCACCG	CCCGGTCAGC	CGTCTGGCCG	CCGTCGTGGG	CGGCGCAGCG	
3p.pile{hpenssp}	CGCGCCACCG	ACCGGTCAGC	CGTCTGGCCG	CCGTCGTGGG	CGGCGCAGCG	
3p.pile{840453p}	CGCGCCACCG	GCCGGTCAGC	CGTCTGGCCG	TCGCCGTGGG	CGGCGCAGCG	
Consensus	CGCGCCACCG	-CCGGTCAGC	CGTCTGGCCG	-CG-CGTGGG	CGGCGCAGCG	
3p.pile{hpea}	GCGGTTCCCG	CGGTGGTTTC	TGGGTGACC	GGTTGATTC	TCAGCCCTTC	1700
3p.pile{hpeuigh}	GCGGTTCCCG	CGGTGGTTTC	TGGGTGACC	GGTTGATTC	TCAGCCCTTC	
3p.pile{hpesvp}	GCGGTTCCCG	CGGTGGTTTC	TGGGTGACC	GGTTGATTC	TCAGCCCTTC	
3p.pile{hpenssp}	GCGGTACCG	CGGTGGTTTC	TGGGTGACC	GGTTGATTC	TCAGCCCTTC	
3p.pile{840453p}	GCGGTGCCCG	CGGTGGTTTC	TGGAGTGACA	GGTTGATTC	TCAGCCCTTC	
Consensus	GCGGT-CCCG	CGGTGGTTTC	TGG-GTGAC-	<b>GCGTTGATTC TCAGCCCTTC</b>		
3p.pile{hpea}	GCAATCCCCCT	ATATTCAATCC	AACCAACCCC	TTCGCCCCCCG	ATGTCACCGC	1750
3p.pile{hpeuigh}	GCAATCCCCCT	ATATTCAATCC	AACCAACCCC	TTCGCCCCCCG	ATGTCACCGC	
3p.pile{hpesvp}	GCAATCCCCCT	ATATTCAATCC	AACCAACCCC	TTCGCCCCCCG	ATGTCACCGC	
3p.pile{hpenssp}	GCAATCCCCCT	ATATTCAATCC	AACCAACCCC	TTTGCCCCCAG	ACGTTGCCCGC	
3p.pile{840453p}	GCCCTCCCCCT	ATATTCAATCC	AACCAACCCC	TTCGCCGCCCG	ATGTCGTTTC	
Consensus	<b>GC-TCCCCCT ATATTCAATCC AACCAACCCC</b>	<b>AT-TGCC-C-G</b>	<b>A-GT-----C</b>			

FIGURE 9F

2651	3p.pile{hpea}	AGCGCTTACC	CTGTTTAACC	TTGCTGACAC	CCTGCTTGGC	GGTCTACCGA	2700
	3p.pile{hpeuigh}	AGCGCTTACC	CTGTTTAACC	TTGCTGACAC	CCTGCTTGGC	GGTCTACCGA	
	3p.pile{hpesvp}	AGCCCTCACC	CTGTTCAACC	TTGCTGACAC	TCTGCTTGGC	GGCTGCCGA	
	3p.pile{hpenssp}	AGCTCTAACA	TACTTTAACC	TTGCTGACAC	GCTCCTCGGC	GGCTCCCCGA	
	3p.pile{840453p}	TGCCCTGACT	CTGTTTAATC	TTGCTGATaC	GCTTCTTGGT	GGTTTACCGA	
	Consensus	-GC-CT-AC-	-T--T-AA-C	TTGCTGA-AC	-CT-CT-GG-	GG--T-CCGA	
2701	3p.pile{hpea}	CAGAAATTGAT	TTCGTCGGCT	GGTGGCCAGC	TGTTCTACTC	TCGCCCCGTC	2750
	3p.pile{hpeuigh}	CAGAAATTGAT	TTCGTCGGCT	GGTGGCCAGC	TGTTCTACTC	TCGCCCCGTC	
	3p.pile{hpesvp}	CAGAAATTGAT	TTCGTCGGCT	GGTGGCCAGC	TGTTCTACTC	CCGTCCCCGTT	
	3p.pile{hpenssp}	CAGAAATTAAT	TTCGTCGGCT	GGCGGGCAAC	TGTTTATTTC	CCGCCCCGTT	
	3p.pile{840453p}	CAGAAATTGAT	TTCGTCGGCT	GGGGGTCAAC	TGTTTACTC	CCGCCCCGTT	
	Consensus	CAGAAATT-AT	TTGGTCGGCT	GG-GG-CA-C	TGTT-TA-TC	-CG-CC-CT	
2751	3p.pile{hpea}	GTCTCAGCCA	ATGGCGAGCC	GACTGTTAAG	CTGTATACAT	CTGTGGAGAA	2800
	3p.pile{hpeuigh}	GTCTCAGCCA	ATGGCGAGCC	GACTGTTAAG	CTGTATACAT	CTGTAGAGAA	
	3p.pile{hpesvp}	GTCTCAGCCA	ATGGCGAGCC	GACTGTTAAG	TTGTATACAT	CTGTAGAGAA	
	3p.pile{hpenssp}	GTCTCAGCCA	ATGGCGAGCC	AACCGTGAAG	CTCTATACAT	CAGTGGAGAA	
	3p.pile{840453p}	GTCTCgCCA	ATGGCGAgCC	AACAGTAaAG	TTATACACAT	CTGTTgAGaA	
	Consensus	GTCTC-GCCA	ATGGCGAGCC	-AC-GT-AAG	-T-TA-ACAT	C-GT-GAGAA	

FIGURE 9G

2801	3p.pile{hpea}	TGCTCAGCAG	GATAAGGGTA	TTGCAATCCC	GCATGACATC	GACCTCGGGG	2850
	3p.pile{hpeuigh}	TGCTCAGCAG	GATAAGGGTA	TTGCAATCCC	GCATGACATC	GACCTCGGGG	
	3p.pile{hpesvp}	TGCTCAGCAG	GATAAGGGTA	TTGCAATCCC	GCATGACATT	GACCTCGGAG	
	3p.pile{hpenssp}	TGCTCAGCAG	GATAAGGGTG	TTGCTATCCC	CCACGATATC	GATCTTGGTG	
	3p.pile{840453p}	TGCgCagCAA	gACAAGGGca	TcacCaTTCC	ACACGACATA	gATTTAGGTG	
	Consensus	TGC-CAGCA-	GA-AAGGG--	T--C-AT-CC	-CA-GA-AT-	GA--T-GG-G	
2851	3p.pile{hpea}	AATCCCGTGT	AGTTATTCAG	GATTATGACA	ACCAACATGA	GCAGGACCGA	2900
	3p.pile{hpeuigh}	AATCTCGAGT	TGTTATTCAG	GATTATGACA	ACCAACATGA	GCAGGACCGG	
	3p.pile{hpesvp}	AATCTCGTGT	GGTTATTCAG	GATTATGATA	ACCAACATGA	ACAAGATCGG	
	3p.pile{hpenssp}	ATTGCGGTGT	GGTCATTCAG	GATTATGACA	ACCAGCATGA	GCAGGATCGG	
	3p.pile{840453p}	ACTCCCGTGT	GGTTATCCAG	gattattgata	accagcagga	acaAgaTcgA	
	Consensus	A-TC-CG-GT	-GT-AT-CAG	GATTATGA-A	ACCA-CA-GA-	CA-GA-CG-	

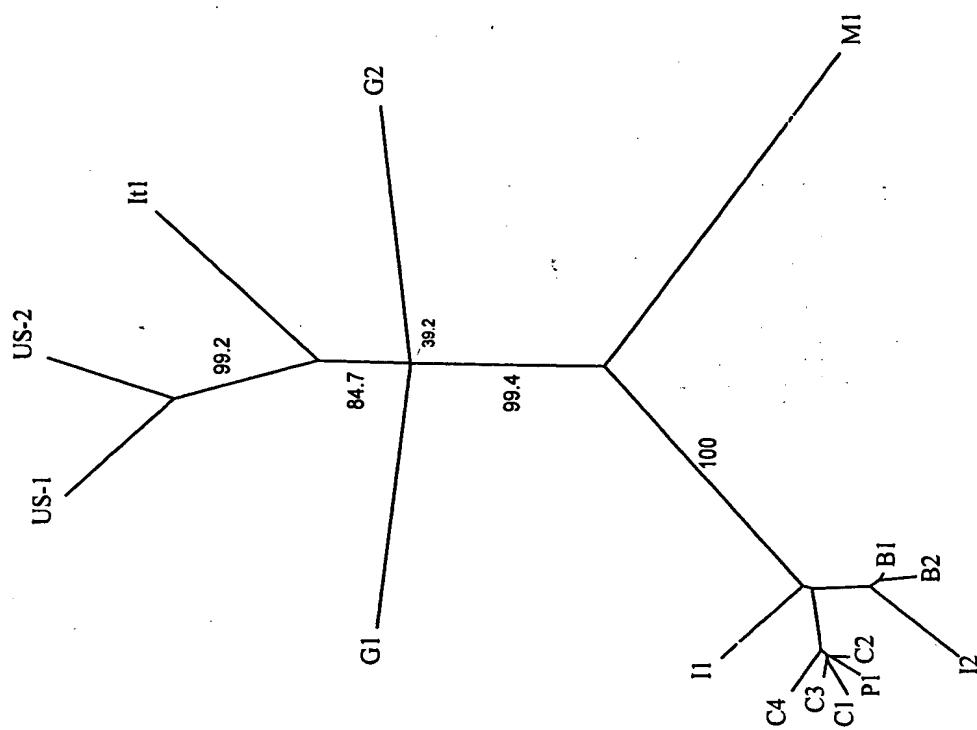


Figure 10



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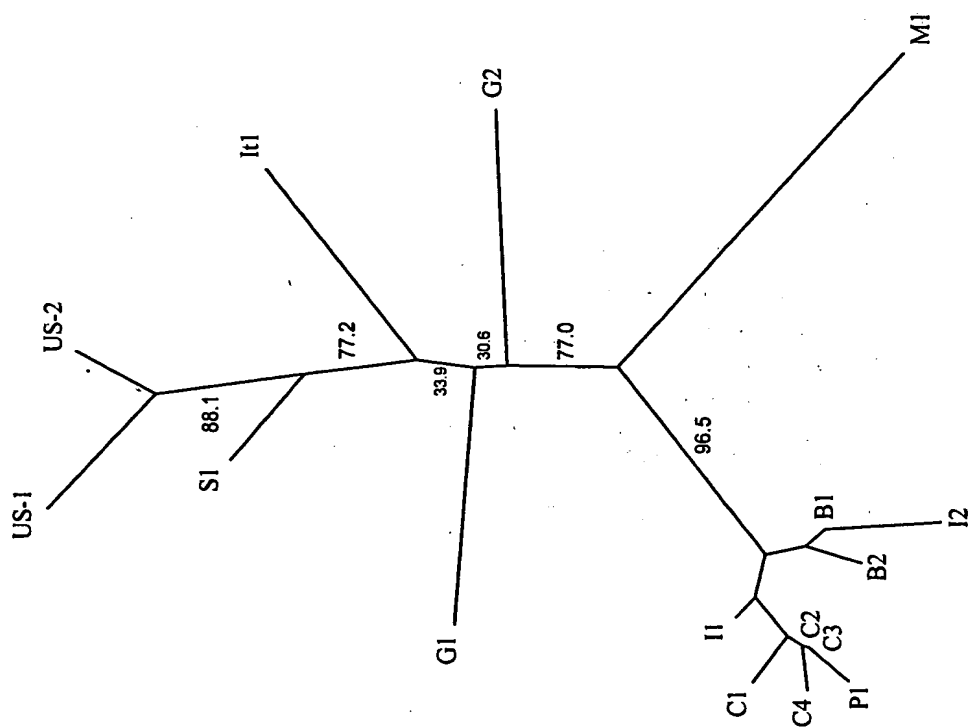


Figure 11

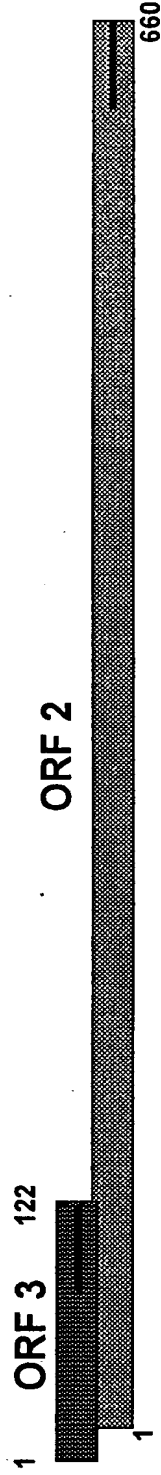


Figure 12A

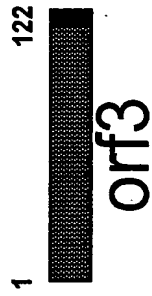


Figure 12B



Figure 12C

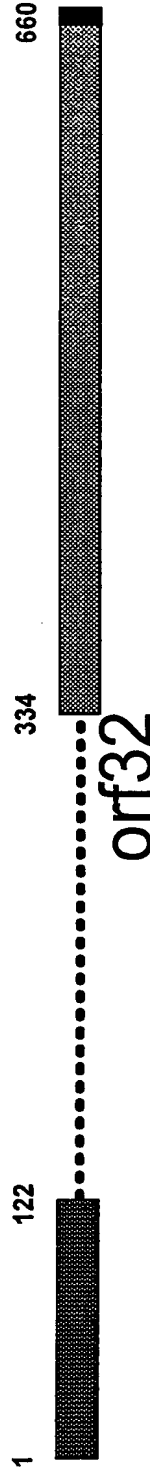


Figure 12D

MACAQUE 13906

HEV US-2 ORF 3 CKS - 29

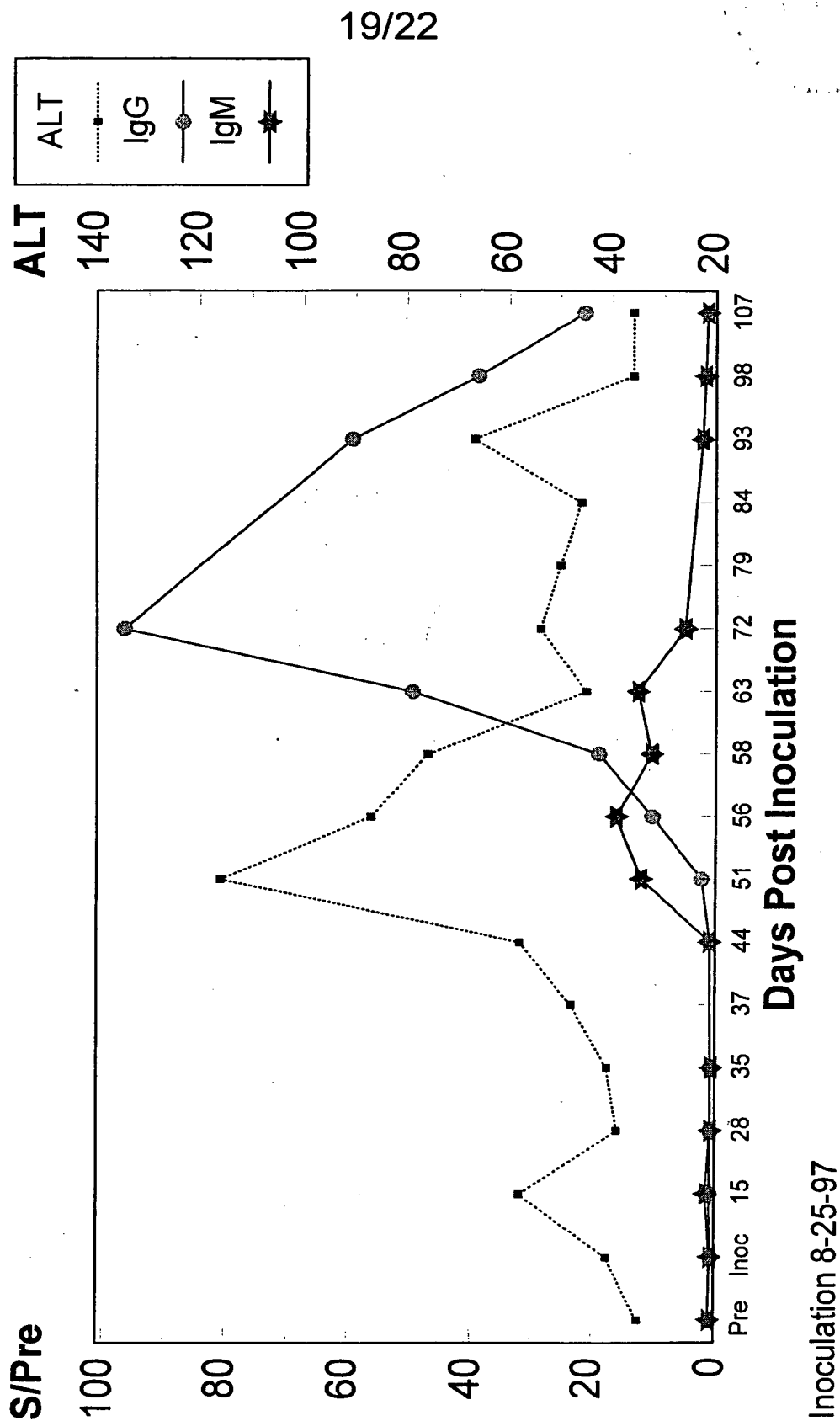


Figure 13

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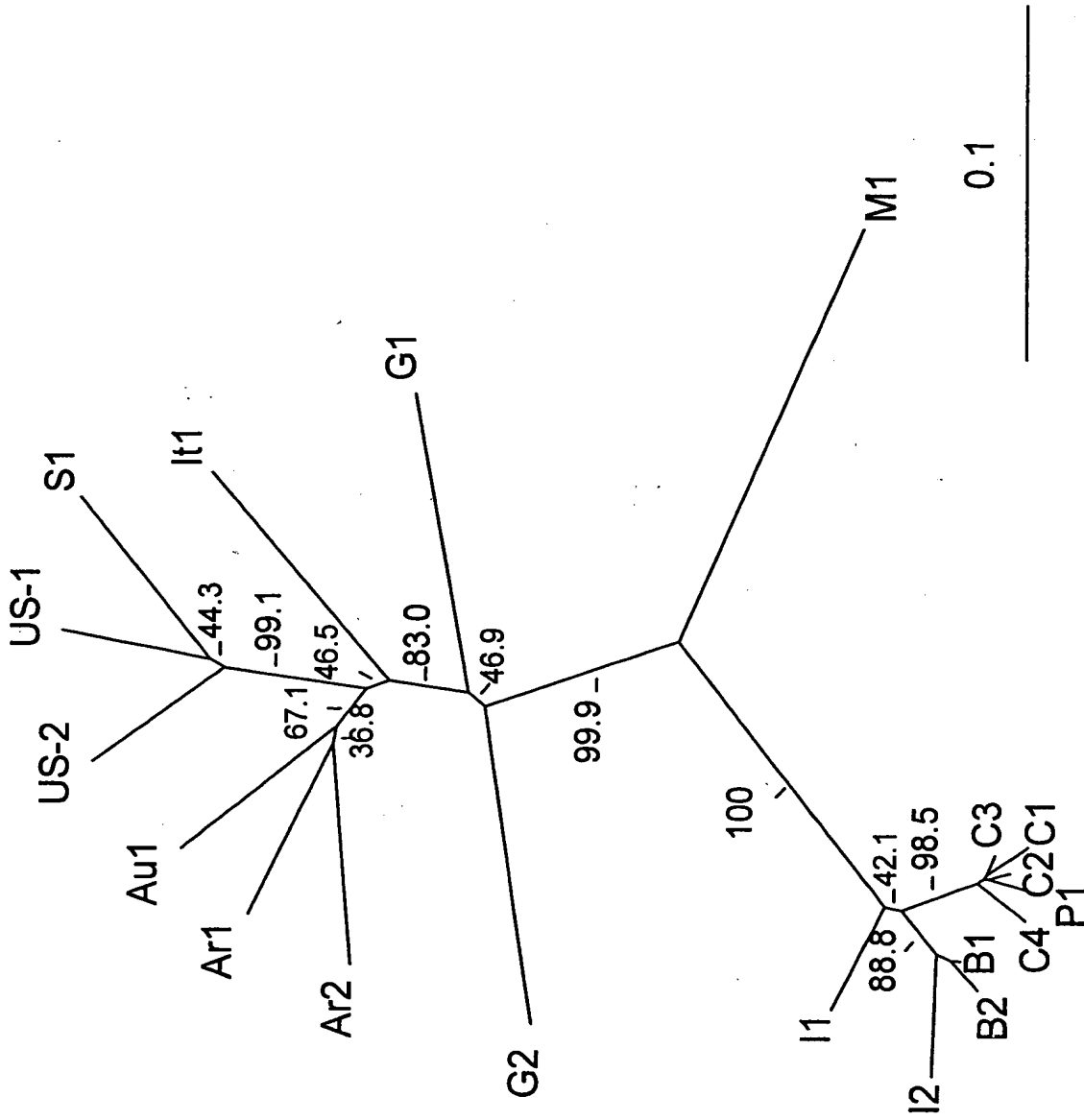


Figure 14

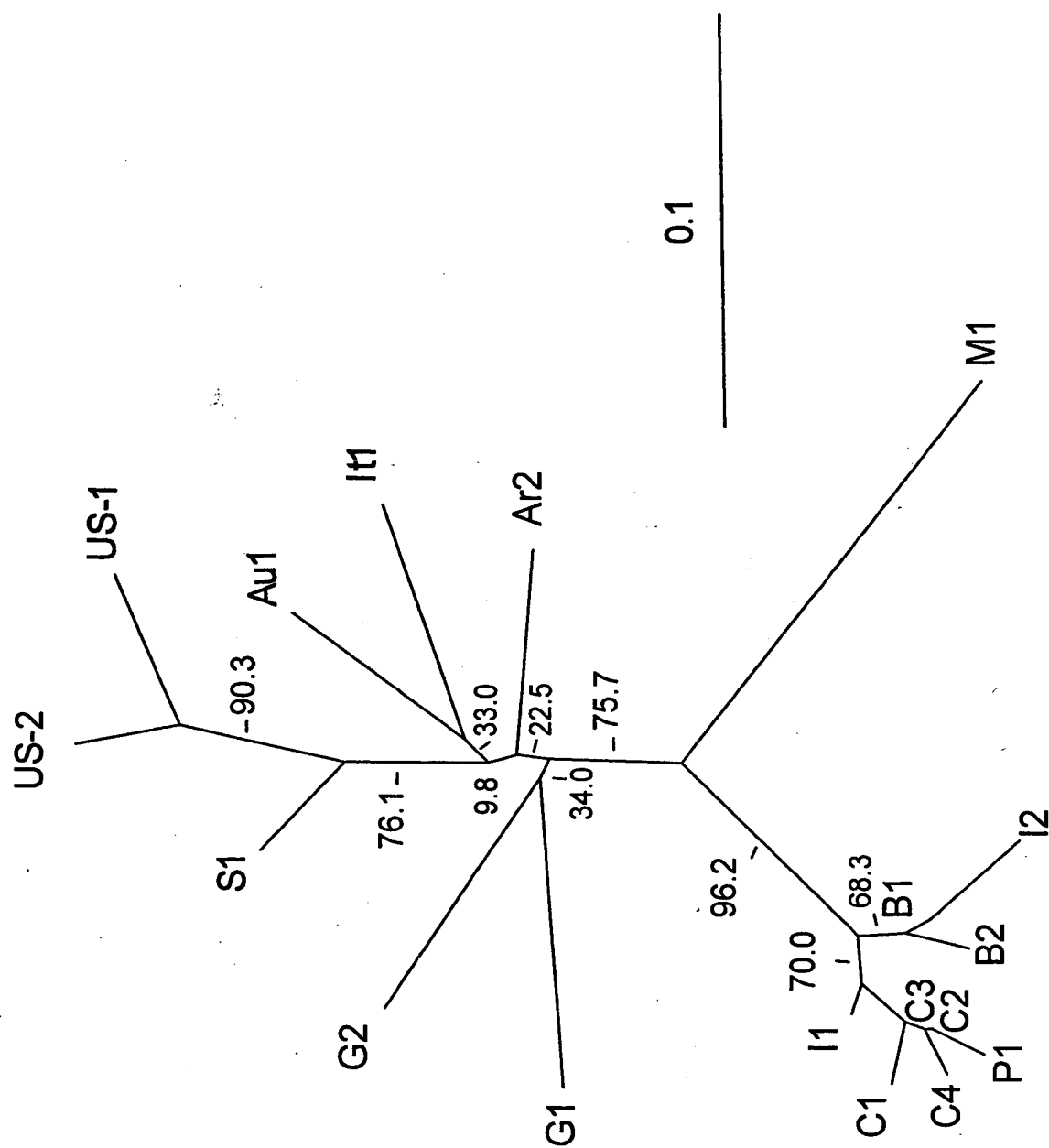


Figure 15

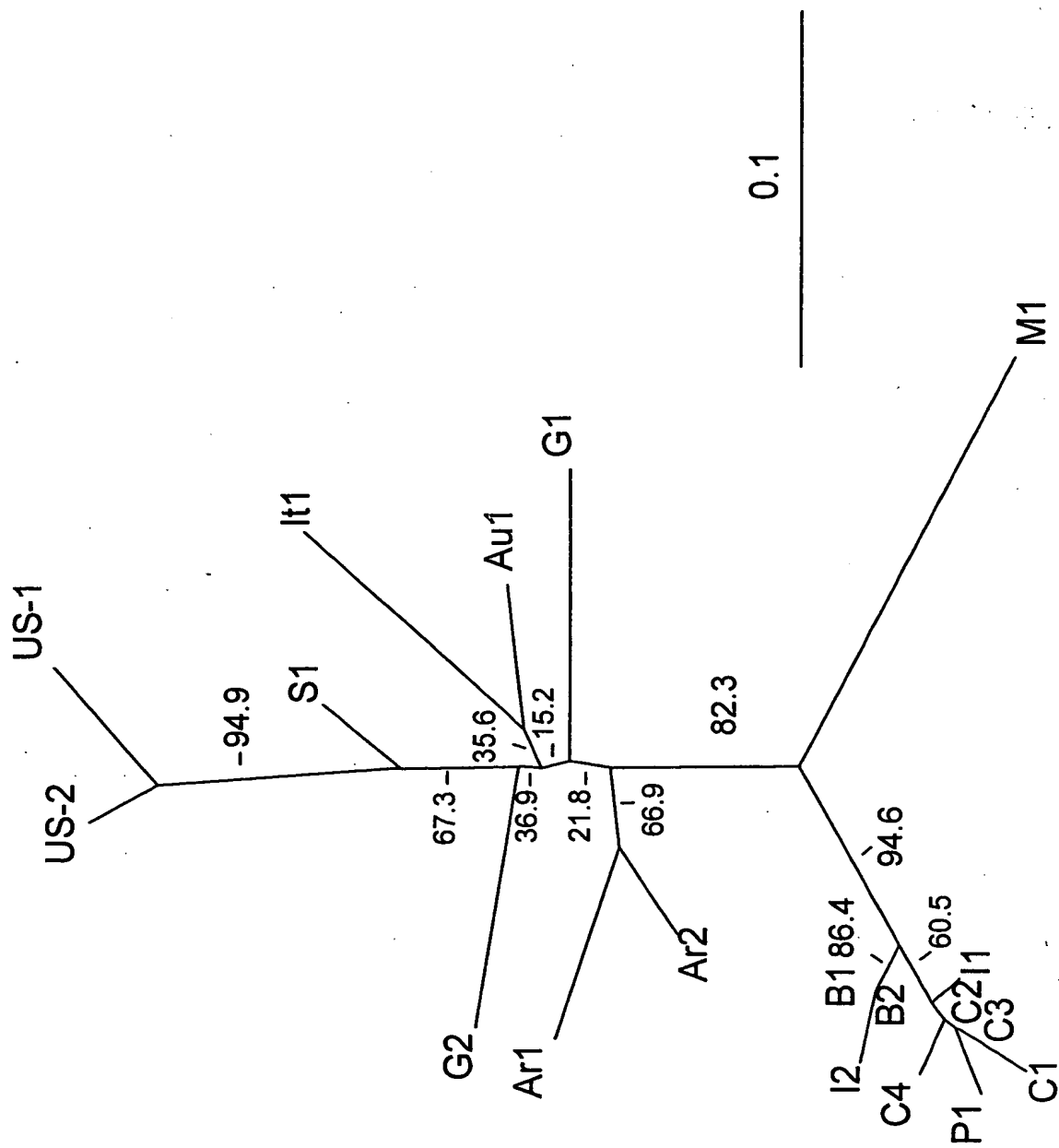


Figure 16